

### ABSTRACT

The present invention aims at providing a photodetector which can detect the incident light intensity with a high speed while having a wide dynamic range for incident light intensity detection. Each photodiode  $PD_{m,n}$  generates electric charges  $Q$  by an amount corresponding to the intensity of light incident thereon. An electric charge amount level determining circuit  $10_{m,n}$  is provided so as to correspond to the photodiode  $PD_{m,n}$ , determines the level of the amount of electric charges  $Q$  generated by the photodiode  $PD_{m,n}$ , and outputs a level signal  $Level$  indicative of the result of level determination. The capacitance value of the integral capacitance part 21 in the integrating circuit  $20_m$  is set by the respective level signals  $Level$  sequentially fed from  $N$  electric charge amount level determining circuits  $10_{m,1}$  to  $10_{m,N}$ . The integrating circuit  $20_m$  accumulates the electric charges  $Q$  fed to the input terminal sequentially from the  $N$  electric charge amount level determining circuits  $10_{m,1}$  to  $10_{m,N}$  into the integral capacitance part 21, and outputs a voltage  $V_{20}$  corresponding to the amount of thus accumulated electric charges  $Q$  from the output terminal.